



Division of Agricultural Sciences
UNIVERSITY OF CALIFORNIA

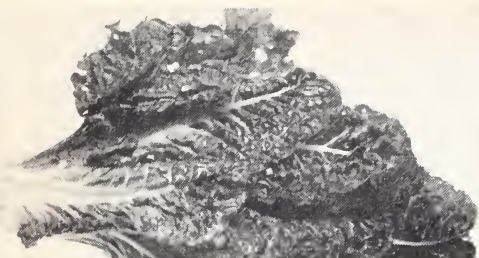
HOME VEGETABLE GARDENING

J. H. MacGillivray

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CALIFORNIA AGRICULTURAL
Experiment Station
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CIRCULAR 499
REVISED



Swiss Chard



Spinach Tip

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HOME VEGETABLE GARDENING



To grow good vegetables you must follow a few simple rules. These rules apply in a small city lot as well as in a ranch garden. In a small garden, you are likely to choose a limited number of vegetables and select only those your family likes best. A large garden allows you a wider choice, extra vegetables for storage, and also allows you to include crops (such as watermelons) which have less food value and take up more space. Excessively large gardens may lead to some neglect, however.

◀ This home garden shows the results of careful planning, preparation, and care.

Here are the general rules for growing home vegetables:

- Select a site that is in the full sun throughout the day.
- Plant at the proper season, when the temperature is right for the particular crop to be grown.
- Plant on the best type soil available. (You can, however, raise a successful garden on all but the poorest of soils.)
- Space plants properly to make the best use of available land.
- Give the vegetables a reasonable amount of care, including weeding and irrigation.
- Harvest when vegetables are at the proper stage of maturity.

See pages 16 and 17 for specific rules for each vegetable.

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Most vegetables fall in two groups:

COOL-SEASON CROPS

Food value is generally higher per pound and per acre than in warm-season crops.



We eat a vegetative part of the plant:

- Root—carrot, parsnip, beet, radish, turnip.
- Stem—asparagus, white potatoes.
- Leaf—spinach, lettuce, celery, cabbage, onion.
- Immature flower parts—cauliflower, sprouting broccoli, globe artichoke.

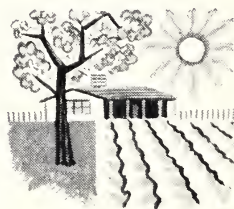
Planting and harvesting time should be in the cool season.

Root depth is shallow to medium.

Storage temperature should be 32° F, except white potatoes (40° to 50° F).

WARM-SEASON CROPS

Food value is generally lower per pound and per acre than in cool-season crops.



We eat the fruit of the plant:

- Mature fruit—tomatoes, watermelon, cantaloupe, winter squash.
- Immature fruit—summer squash, cucumber, snap and lima beans, sweet corn.

Planting and harvesting time should be in the warm season.

Root depth is medium to deep.

Storage generally not advisable for very long periods.

Note: Two exceptions to the above classification are peas (a fruit, yet a cool-season crop) and sweet potatoes (a root and warm-season crop).

PART I: *Important Facts About Your Vegetable Garden*

PLANNING YOUR GARDEN

Location

Choose the best available spot. In deciding where to plant your vegetable garden, keep in mind the following:

Good soil. This you cannot control completely. But you can, by a simple test (see bottom of page 8), find out whether your soil is in good condition for planting. Proper working and use of fertilizer will improve poor soil and increase yield even on good soil.

Level ground is the best for growing vegetables. It is easier to prepare, plant, and irrigate than sloping ground. However, a gentle slope to the south or southeast is preferable as it will make the most of available sunshine. Run rows across the slope, not up and down. This keeps the soil from washing down during irrigation.

Water supply. Make sure that your garden is near a good water supply or can be easily reached by sprinkler attachments.

Adequate light. Do not plant vegetables where they will be shaded by trees, shrubs, walls, or fences. They need maximum sunlight for the best growth. Trees and shrubs also take water from the soil, and encourage birds which damage young plants.

Plant your garden near the house if possible. You will be more likely to use spare time for working in it if it is easily reached; and you need not carry tools back and forth over a long distance.

Where your garden is large enough for power tools, be sure to have access to a road or driveway wide enough for moving the equipment.

Arrangement

To get the most out of a small area, make a rough plan for your garden. The chart on page 16 gives the recommended spacing for each crop. If you use tractor cultivation, the width of the equipment will determine the distance between rows.

Here are some arrangement ideas:

Plan for a small garden, well cared for, rather than for a large one which will be neglected.

Plant long rows to save time in care and cultivation. You may plant several crops in the same row if the distance between rows is about the same. Check the chart on page 16 for crops with similar space requirements.

Plant perennials in a special area at one side of the garden so they will not be disturbed by preparations for the annual crops.

Plant late crops in the same space where spring crops already have been harvested. For example, tomatoes may follow radishes, or cucumbers be planted after spinach.

Plant tall crops, such as corn and pole beans, together. If possible, plant them on the north side of the garden where they will not shade the low-growing crops.

What to Plant

Plant enough of each vegetable for the family's needs, but not more than you can use. You may wish to plant more of crops that store well (see chart, p. 16) than of those that must be eaten as soon as they are ripe. You may also want to allow extra supplies for canning or freezing.

Some plants, such as melons, sweet corn, and asparagus, take up quite a bit of room. You may have to plant less

of some crops if you want several kinds of vegetables in a small garden.

Some crops, such as radishes, sweet corn, and lettuce, have short periods of yield. Plant those more than once during a season to provide a continuous supply, if your climate permits.

Seeds and Plants

Many of your vegetables will grow from seeds right in your garden. For others, you will buy young plants from the nursery and set them out in your garden. These plants were started from seed, under sheltered nursery conditions, at an earlier time than you could safely plant the seed outdoors. They will be ready to harvest earlier than if you had to wait for the ground to get warm enough to start them from seed.

The vegetables you will most likely buy as young plants for transplanting are: tomatoes, peppers, broccoli, celery, cabbage, cauliflower, and eggplant.

If you wish, you may grow any of the above-mentioned vegetables ahead of the season, in a hotbed or coldframe. For directions on construction of a hotbed, see top of page 8. For help in seedling and transplanting, turn to pages 10 and 11.

Buy seeds or plants from a reliable dealer or nursery. If your neighbor has been growing successful gardens, ask his advice on where and what to buy.

Be sure the seed you buy is viable. Some seed, such as corn, onion, parsley, and parsnip, loses its viability after about 1 year. The seed of most other vegetables will be good for about 3 years. Some companies date their seed packets, and may give germination percentages. It is sometimes more economical to buy seed known to keep for several seasons in larger amounts. Note date of purchase on the packets. Do not use any seed for more than 2 or 3 years. Store any leftover seed in a cool, dry place.

Tools

You will not need many tools for use in a small garden, but those you buy should be of good quality.

Spade or spading fork is needed to turn the ground, turn under manure, and break up large clumps of soil.

Rake is useful for smoothing out after spading, and preparing the seed bed. Also, for clearing up rubbish and small weeds.

Hoe takes care of tough weeds and, when turned sideways, digs the V-row for planting. Also used to cover seeds.

Yardstick, twine and stakes are useful for getting rows evenly spaced and laid out in straight lines.

Putty knife or spatula are handy for blocking out seedlings when transplanting (also for cleaning tools).

Small hand sprayer and duster will keep insects and diseases under control.

Trowel, one of the handiest garden gadgets, is useful in transplanting and in loosening soil around plants.

Dibble, a short, round, pointed stick, is used to make holes for transplanted seedlings, and to firm dirt around the roots.

Wheel hoe, with several attachments, is useful in weed control, and for making furrows for deep-seeded crops.

Care of Tools

Clean tools after using. A putty knife is good for scraping off dirt.

Keep tools in a dry place to prevent rust. If they do get rusty, soak them in kerosene for a few hours, then scrub off rust with a wire brush or with fine sand.

Keep cutting tools sharp.

Have a special place for tools where they may be hung up out of the way. This prevents damage both to you and to the tools.

GETTING READY FOR PLANTING

How to Prepare a Hotbed

You can get a head start on your garden by growing transplants in a hotbed or coldframe for later transplanting. If there is any extra space, it may be used to produce early crops of small vegetables, such as radishes, spinach, and lettuce.

One hotbed, 3×6 feet, will be enough for the average home garden.

Place the hotbed where it will have

- Protection from strong prevailing winds.
- Good natural drainage.
- Abundant sunlight.
- Available water supply.

Make frames out of wood similar to the hotbed diagram. Make the north side 12 inches and the opposite side 8 inches, so water will be shed and the sun will more effectively heat the soil. Place 4 to 6 inches of good soil in a pit so surface is even with soil surface at bottom of boards. There are several ways of furnishing supplementary heat—manure, hot air, hot water, steam, and electric heating cable. Fermenting horse manure provides adequate heat, but is not very practical for small beds. If used, be sure to get adequate directions. Lead-covered electric cables can be used; they are not too expensive and usually are best suited to the home garden. The cable is installed so as to deliver from 150 to 200 watts per 3 by 6 foot sash. Sixty feet of number 19 cable will furnish about 400 watts at 110 volts of A. C. current. Sometimes in a small hotbed light bulbs are used as a source of heat, but are not effective in heating the soil. Put the cable about 3 to 4 inches below the surface of the soil and control the temperature by a thermostat. Follow accurately the manufacturer's recom-

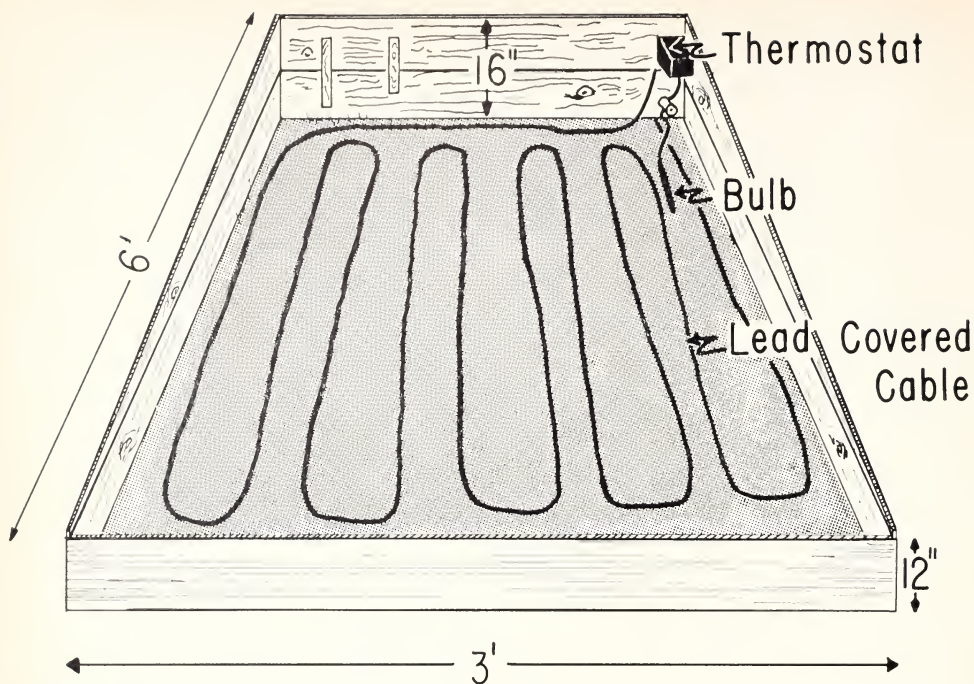
mendations for the use of the cable. It is not unusual to use 1 kw.hr of electricity per 3 by 6 foot sash per day. Be careful not to injure the cable when spading.

Of the several types of covers for frames, glass sash is the best and most expensive. More light passes through the glass and the bed is warmer than with the other materials. Polyethylene plastic is a good material to use for frame covers. It is cheaper than glass, but must be replaced every year. On cold nights the beds will hold more heat if covered with blanket, canvas, or mats, but these covers must be removed during the daytime.

To raise early plants for transplanting, plant the seeds in hotbed soil in rows about 4 inches apart. When the seedlings appear, give them plenty of sun, good ventilation and thin to 2 inches. Avoid too high temperatures (70°–80° F), or the plants will be weak and leggy, and subject to disease. On warm, sunny days, prop up cover at one end or on the side away from the wind for ventilation.

Some gardeners prefer to grow plants in small boxes called "flats." These are made from wood and may be any convenient size. A size of 23×14×3¼ inches is common. Such a flat would have an inside depth of 3 inches. A flat half this size might be more convenient for planting seeds. Flats with young plants can be moved to the field for transplanting. (See pages 10 and 11.)

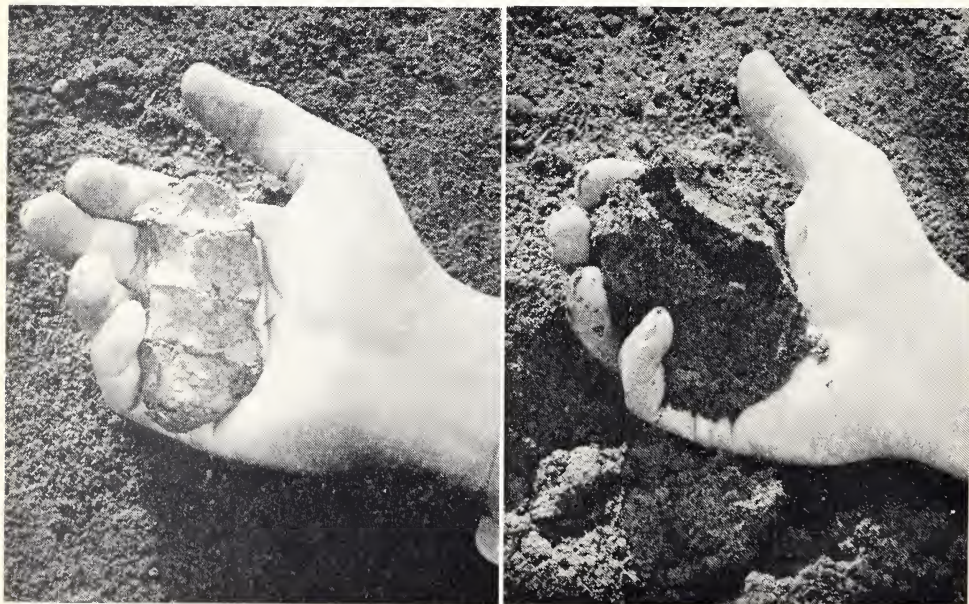
Commercial growers sometimes cover seed or young plants in the field with paper hot caps or polyethylene row covers to increase earliness. These keep the air temperature higher during the day, but have small effect on night or soil temperatures. When hot caps are used, remove them gradually when the plants fill the air space. To harden plants, first open the hot caps slightly on the north side and gradually in-



Electric hotbed (top) showing position of lead-covered cable thermostat and sensitive bulb for soil temperature. Cable to be covered with 3 to 4 inches of soil. Boards should be redwood.

Below, left: if squeezed soil forms a mud ball it is too wet to be worked. Working soil in this sticky condition may cause hard lumps which will be a handicap throughout growing season.

Below, right: if the soil crumbles easily in your hand it is then in ideal condition to work.



crease exposure until hot caps are removed over a period of week or two. You may remove the hot caps or open the row covers temporarily for thinning and weeding the seedlings.

Making Compost

Composts are made to supply a fertilizer material high in organic matter, but not particularly rich in plant nutrients. Lawn clippings, vegetable refuse, straw, leaves, and animal manure are the main materials. It is desirable to add chemical fertilizers at a rate of 4 pounds per bushel of dry material, or half this rate for green or moist material. For best results the fertilizer should be about 45 per cent ammonium sulfate, 15 per cent superphosphate and 40 per cent limestone. Any garden fertilizer of this approximate mixture may be used. The organic material is usually placed in layers together with the fertilizer. Make a little depression at the top of the pile so that water will penetrate. To aid decomposition, water the compost every week to 10 days, and possibly turn or mix the pile every month or two.

Soil Preparation

Crops may be grown on sandy loam, loam, or clay soils.

Sandy loam and loam irrigate and drain well, and are easy to keep in good condition.

Clay soil is usually more productive than loam, but warms up more slowly in the spring, and requires care as it should not be worked when too wet.

Sandy soil has the least available water per foot of depth; clay soil has the most.

The first step in soil preparation is spading or plowing the garden. Do not spade if the soil is too wet, especially on clay. In some areas, it is possible to give the garden an early spading before winter rains or frosts come.

Work the soil to about 6 inches deep. Immediately after spading, break up big chunks with a spading fork or rake and see that the soil is well pulverized.

Fertilizers

Plant nutrients can be supplied by chemical fertilizers or animal manures. Several compounds are good sources of nitrogen—these include ammonium sulfate, ammonium nitrate, calcium nitrate, and urea. In the Imperial and Coachella valleys, soils need nitrogen and phosphoric acid; in other parts of the state, mainly nitrogen is needed, but both elements (nitrogen and phosphorus) are desirable.

Phosphates are sold under the labels of "superphosphate" or "treble phosphate." Ammophos contains both nitrogen and phosphoric acid. All so-called fertilizers are labeled according to their chemical analysis. For example, 10-10-5 means that the product contains 10 per cent nitrogen, 10 per cent phosphoric acid, and 5 per cent potash. These fertilizers may be applied yearly at the rate of 1 to 3 pounds per 100 square feet. They may be scattered over the ground in the spring before it is spaded or plowed.

Liquid fertilizers containing nitrogen and phosphoric acid are available, and are as effective as dry materials. Because most liquid fertilizers weigh about 10 pounds per gallon, they should be applied at the rate of 1 to 3 pints per 100 square feet. They may be diluted with water and applied by sprinkler can.

Side dressing. Nitrogen compounds are sometimes applied alongside plants when they are one-third grown to increase the growth. If you use this method of side dressing be sure to keep the fertilizer several inches from the plants to prevent injury to the roots, and several inches to the side and below newly-planted seeds. Apply at

the rate of $\frac{1}{2}$ to $\frac{3}{4}$ pound per 100 feet of row.

During the rainy season, nitrogen fertilizers may be applied to the soil surface. The rain will carry them down to the plant roots. Or crops may be side dressed and then irrigated.

Do not get fertilizer on the leaves of the plants. It will burn them, especially if they are wet.

Animal manure is a good fertilizer. It will supply your garden soil with nitrogen, phosphorus, potash, and organic matter. Some manures may need to be supplemented with additional phosphorus.

Do not use manure containing a large amount of straw, as the straw does not work into the soil well, and may use up soil nitrogen. The manure should also be fairly free of weed seeds.

Apply manure to the garden each year, in the fall, at the rate of about $\frac{1}{2}$ to 1 pound per square foot. Excessive amounts of animal manure may cause salt problems in your soil.

Time of Planting

Seasonal temperatures are very important in determining when a crop should be planted.

Seed of cool-season crops (see box on page 4) will germinate better with cool soil temperatures than will seed of warm-season crops. Average monthly temperatures for cool-season crops are 60° to 65° F during the growing period; for warm-season crops, 65° to 80° F.

Consult the chart on page 16 for planting times for the four different areas of California. These dates are based on the average temperatures for each area, and you may have to make some adjustment if your section varies widely from the average. The planting times given are for seeds unless otherwise stated. In California, the gardener should allow 6 to 10 weeks for seeds to produce plants for transplanting.



Other climatic factors affecting growth and quality of vegetables are soil moisture, air temperature, and length of day from sunrise to sunset. For example, Brussels sprouts and globe artichokes only grow successfully

near the ocean, where humidity is high and temperatures cool. And many annuals, such as radish, lettuce, spinach, and Chinese cabbage, tend to produce flowers as the days grow longer near June.

Temperature is probably the most important climatic factor affecting the success of your garden. Study the planting chart (pages 16-17) for your area carefully. It will repay you in the yield and quality of the vegetables you grow.

Planting, seeding, transplanting

Spacing for different vegetables will be found in the chart on page 16.

The distance between the rows depends upon the size of the plants when

Top left, opposite page. Sow seeds in flat or in soil of hotbed. Cover with one-half inch of soil. Seeds grow best at 65° to 75° F. Temperature is lowered by ventilation, or raised by adding extra covers.

Middle, left: remove seedlings from flat, using a pencil or a small dibble.

Bottom, left: plant seedlings in another flat, spacing them 2 or 3 inches apart. Use a pencil or small dibble to make holes.

Below: take up some soil with each plant. Use a trowel to make holes. Firm the soil around each plant, and water gently.



full-grown. The depth of planting, either in the garden or in hotbed or coldframe, depends upon the size of the seed. Plant small seed about 1/2 inch deep. Plant snap beans and sweet corn 1 to 1 1/2 inches deep.

A general rule for planting seed: Plant to a depth four times the average diameter of the seed.

When transplanting seedlings, plant them to the depth at which they were growing in the hotbed or flat. Make planting holes large enough so that the roots will not be crowded. Be sure to firm the soil around the roots.

CARING FOR YOUR CROP

Irrigation

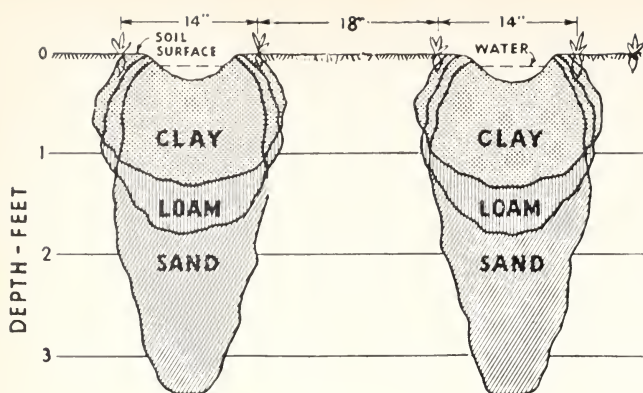
Most areas of California need irrigation to provide the soil with the moisture plants need for maximum growth.

In normal years in most areas winter rains (12 inches or more) usually wet the soil, by spring, to a depth of 6 feet. If the soil is not wet to this depth it should be irrigated before seeding, so that several feet are wet.

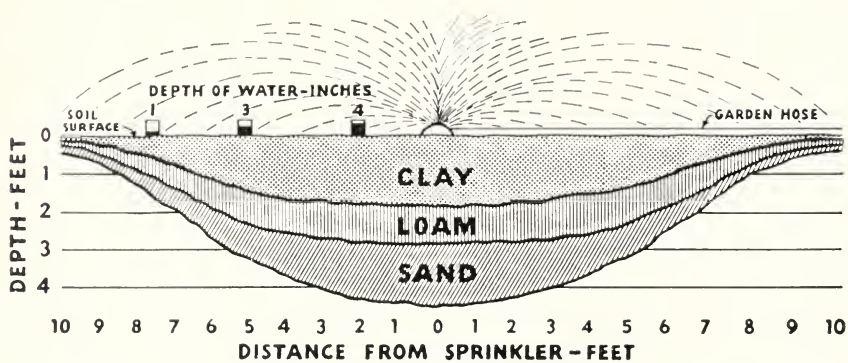
Vegetables differ in their needs for amount of water and frequency of application. In the home garden, it is usually best to adjust irrigation to meet the needs of the shallow-rooted crops. If these are satisfied, the medium- and deep-rooted ones will automatically get enough water. (See page 13.) This same rule applies where the topsoil is shallow, providing only 1 or 2 feet of soil for root growth.

Clay soils hold more usable water than do sandy ones, and do not need irrigation so often. Each foot of depth of sandy soil usually holds 3/4 inch of usable water. The same depth of clay soil holds 2 to 2 1/2 inches.

Irrigate your vegetable garden about once a week. Wet the soil to



Penetration of equal amounts of water in furrows of three soil types. Clay holds the most available water per foot of depth; sand holds the least water per foot.



If you use sprinklers for irrigating, let their sprays overlap. Otherwise, the soil at the outer edges will not receive enough water and plants in those areas will not reach maximum growth.

a depth of at least 2 feet at each watering.

If only the surface of the soil is kept moist, most of the water evaporates to the air and is lost to the roots, which are rarely in the top 3 or 4 inches.

Do not waste water. There are simple ways to measure how much water you give your garden.

If you use a sprinkler system, place some empty cans under the spray at various spots, keep track of the time the sprinkler is on, and measure the depth of water in the cans when you turn off the water. Average the various depths to determine how much water your garden is getting at each sprinkling.

If you use a garden hose, turn it on to the force you normally use and time it to find out how many minutes

it takes to fill a 1-gallon can. This will give you the rate of flow per minute. One gallon of water will cover 1 square foot of ground to a depth of 1.6 inches.

Surface irrigation. You may want to use this system; it does not wet the leaves as do sprinklers—which is an advantage because foliage wetting sometimes increases plant diseases.

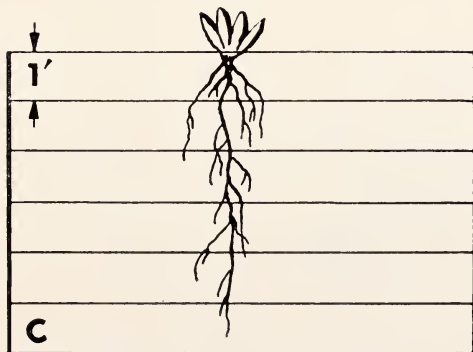
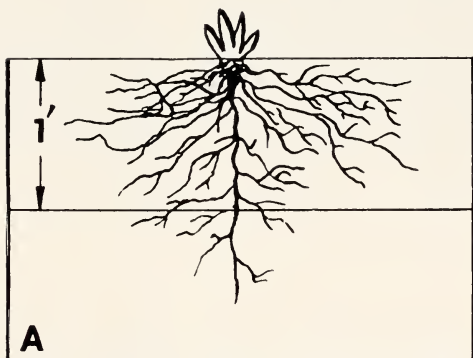
If you plan to use surface irrigation, follow these two planting arrangements:

For small crops, plant seeds in beds raised 5 or 6 inches above ground level, 18 inches wide on the top, with 2 rows to a bed. The beds should be about 32 to 40 inches apart from center to center. Raised beds are good for winter crops because they drain off excess rain. Irrigation water is applied in the furrows between the beds.

You may plant seeds at ground level, in rows 4 to 6 feet apart, with one or two furrows between rows to take water.

When you are using the surface method, more water is needed in order to wet the soil to the necessary depth of 2 feet.

Depth of Rooting



Weeding

Weeds are one of your garden's worst enemies. They take water and plant foods from the soil, shade crops, thus slowing down growth, and choke out small plants.

The chief method of weed control in the small garden is by cultivation. If you have only a few weeds, they can be kept under control by hand-weeding.

Use a hand hoe or wheel hoe. Shallow cultivation, with knife-like blades, is best because this kills the weeds without harming crop roots.

Thinning

Overcrowded crops cannot grow rapidly and to good size. Small root crops, salad crops, and those grown for greens, should be thinned early at the second or third true-leaf stage. Root crops, such as beets or carrots, should be thinned to 2 inches apart. Radishes should be 1 inch apart, and head lettuce, 12 inches apart.

HARVESTING AND STORING

To get the most out of your vegetables, harvest them when they are at their best stage for eating, and store them under conditions that will keep them as nearly garden fresh as possible.

A. Shallow. Main root system is in the top 2 feet of soil. *Examples:* cabbage, cauliflower, lettuce, celery, sweet corn, onion, white potato, radish.

B. Moderately deep. Main root system is in top four feet of soil. *Examples:* snap bean, carrot, cucumber, eggplant, pea, pepper, summer squash.

C. Deep. Main root system is in top six feet of soil. *Examples:* globe artichoke, asparagus, cantaloupe, pumpkin, tomato, watermelon.



Thin root crops early in their growing season to insure fully developed, well-formed vegetables. Left: carrots grown without thinning. Right: carrots properly thinned to about 2 inches apart. For best results, thinning should be done by hand when plants are small.

Some vegetables have a longer edible period and keep better in storage, than do others. The quality of asparagus, sweet corn, lima beans, and peas is greatly affected by proper stage of maturity and good storage conditions, and is best with a short storage period. These and other vegetables are best when harvested and cooked immediately. The best time to harvest is given for each vegetable in the section beginning on page 15. Storage times are shown in the chart on pages 16 and 17.

There is always a lapse of time between the harvesting and the eating of your vegetables. Once an edible part has been removed from the plant, it

has no further source of food, nor can it replace loss of water. Proper storage conditions will keep food and water losses as low as possible. To maintain vegetables at top quality after harvest, keep them under desirable storage conditions, and do not keep them too long.

Cool-season crops (except white potatoes) and sweet corn should be kept at temperatures between 32° F and 34° F. Beans and melons keep best at 34° to 40° F; peppers, cucumbers, and ripe tomatoes, at 40° to 50°; pumpkins, winter squash, and sweet potatoes, at 50° to 55° F; and green tomatoes at 50° to 70° F



PART II: *What You Should Know About Individual Vegetables*

GLOBE

ARTICHOKE

Perennial.

Suggested variety:

Green Globe

Produces greatest yield and best quality in areas along the coast from San Francisco south to Santa Barbara. Can be produced in other areas, but with less success because with long, warm days, the bud scales become hard and unpalatable. Use offshoots or divisions from mature plants. Commercial plantings good for 4 to 5 years, but plants in home gardens may furnish enough buds for a longer period. Transplant in late fall or cooler part of year. Most buds can be harvested from early winter through early spring. Buds are ready to cut when scales have not spread, and before flowers appear. In cutting, include $1\frac{1}{2}$ inches of stem. Harvest weekly in cool weather. Yield: 40 to 50 buds from a mature plant. Cut stalks off near ground when production period is over.

ASPARAGUS

Perennial.

Suggested varieties:

Mary Washington

500 W

In winter or early spring, plant large, 1-year-old plants, or crowns, 8 to 10 inches deep in a trench. Cover with about 2 inches of soil, fill in gradually after plants have made considerable growth. Do not harvest the first year. The second year, harvest only half the usual period. A bed may be cut for about 10 weeks after the second year. Spears are ready to cut in

This section contains an alphabetical list of 45 vegetables with some special tips on how to grow them successfully.

For most vegetables, there are a number of varieties from which to choose. Those listed are the more common, or those which can be grown with least difficulty. If you cannot always buy the suggested variety, your seed dealer can recommend another suitable for your locality.

early spring when they are about 8 inches long. Cut at ground surface. Too long harvesting reduces future yields. A home garden bed should produce for at least 15 years. For white spears, cover the rows with an 8-inch mound of dirt in spring. Harvest when spears show through top of mound. Eat promptly or store in a cool place.

HOME VEGETABLE GARDENING

... At a Glance

The following two pages list some of the vital information about raising the 45 vegetables discussed at greater length on pages 15 to 31. The table on pages 16 and 17 will help you select the vegetables best suited to your needs, tell you when to plant them in your area, how much to plant for a four-member family, how far to space, and how long and how cold to store your crop.

SPECIAL TABLE: How To Plant and Store Your Vegetables

The what, where, when, and how of vegetable gardening

Planting dates for sections of California. Climate may vary even in small sections of the state. Since the areas shown here are large, planting dates are only approximate.									
Vegetable	N. Coast: Monterey Co. north	S. Coast: San Luis Obispo Co., south	Interior valleys: Sacramento, San Joaquin, and similar valleys	W = warm-season crop C = cool-season crop	Moderate planting for family of four	Distance apart in row	Distance between rows without beds	Recommended storage tem- peratures, degrees F	Storage period (no. of weeks)
ARTICHOKE ³	Aug-Dec	Oct-Dec	.....	C	3-4 plants	48"	60"	32	1-2
ASPARAGUS ³	Jan-Mar	Jan-Feb	Jan-Feb	C	30-40 plants	12"	60"	32	3-4
BEANS (lima) ¹	May-June	Apr-May	May-June	W	15-25 ft. row	6" bush; 24" pole	30"	40	1-3
BEANS (snap) ^{1, 2}	July May-June	Mar-Aug	Apr-May, July	Jan-Mar, Aug	15-25 ft. row	3" bush; 24" pole	30"	45-50	1-2
BEETS ¹	Feb-Aug	Feb-Aug	Feb-Aug	Sept-Jan	10-15 ft. row	2"	24"	32	3-10
BROCCOLI ^{1, 3}	June-July	June-July	July	Sept	15-20 ft. row	24"	36"	32	1-2
BRUSSELS SPROUTS ³	June	June-July	.....	.....	15-20 ft. row	24"	36"	32	3-4
CABBAGE ^{1, 3}	Jan-Apr July-Sept	Oct-Feb	July, Jan-Feb	Sept-Nov	10-15 plants	24"	36"	32	12-16
CABBAGE (Chinese) ¹	July-Aug	Aug-Sept	Aug	Aug-Nov	10-15 ft. row	6"	30"	32	2-3
CANTALOUPEs and similar melons	May	Apr-May	Apr-May	Jan-Apr, July	5-10 hills	48"	72"	40-45	2-4
CARROTS ^{1, 2}	Jan-Aug	Jan-Aug	July-Aug, Feb	Sept-Dec	20-30 ft. row	2"	24"	32	16-20
CAULIFLOWER ³	June, Jan	July-Nov	July-Aug	Sept-Oct	10-15 plants	24"	36"	32	2-3
CELERIAC	Mar-June	Mar-Aug	June-Aug	.....	10-15 ft. row	4"	24"	32	8-16
CELERY ^{1, 3}	Mar-June	Mar-Aug	June-Aug	.....	20-30 ft. row	5"	24"	32	8-16
CHARD ¹	Feb-May	Nov-May	Feb-May	Sept-Oct	3-4 plants	12"	30"	32	1-2
CHAYOTE	.....	Apr-May	May-June	.....	1-2 plants	72"	grow along fence	.....	.....
CHIVES ¹	April	Jan-Feb	Feb-Mar	Nov-Jan	1 clump	needs 4 sq. ft.	.....	.....	.....
CORN (sweet) ²	Apr-July	Feb-July	Mar-July	Jan-Mar	20-30 ft. in 4 rows	15"	36"	32	1/2-1
CUCUMBERS	Apr-June	Apr-June	Apr-June	Feb-May	6 plants	24"	48"	50	1-2
EGGPLANT ³	May	April	Apr-May	Feb-Aug	4-6 plants	24"	36"	50	1-2

FLORENCE FENNEL	Mar-July	Mar-Aug	Aug	Sept-Nov	C	10-15 ft. row	4"	30" ⁴	32	2-3
GARLIC	Nov-Dec	Nov-Jan	Nov-Jan	Oct-Nov	C	10-20 ft. row	3"	18" ⁴	32	24-32
KOHLRABI	July-Aug	Jan, Aug	Aug	Nov	C	10-15 ft. row	3"	24"	32	2-4
LEEK	Feb-Apr	Jan-Apr	Jan-Apr	.....	C	10 ft. row	2"	24"	32	4-12
LETTUCE ¹	Feb-Aug	Dec-Aug	Aug, Nov-Feb	Sept-Dec	C	10-15 ft. row	head 12"; leaf 6"	24"	32	2-3
MUSTARD	July-Aug	Aug-Feb	Aug	Nov	C	10 ft. row	8"	24" ⁴	32	1-2
OKRA	May	April	May	Mar	W	10-20 ft. row	18"	36"	50	.....
ONIONS	Jan-Mar	Nov-Feb	Nov-Feb	Nov-Jan	C	30-40 ft. row	3"	24" ⁴	32	12-32
PARSLEY ⁷	Dec-May	Dec-May	Dec-May	Sept-Oct	C	1 or 2 plants	8"	24"	.....	.....
PARSNIPS	May-June	June-July	June-July	Oct	C	10-15 ft. row	3"	24" ⁴	32	8-16
PEAS ¹	Jan-Aug	Aug, Dec-Mar	Nov-Jan	Aug-Nov	C	30-40 ft. row	2"	36" bush 48" vine	32	1-2
PEPPERS ^{1, 3}	May	Apr-May	May	Mar	W	5-10 plants	24"	36"	45-50	4-6
POTATOES (sweet) ³	May	Apr-May	May	Mar-May	W	50-100 ft. row	12"	36"	55-60	8-24
POTATOES (white)	early: Feb late: Apr-May	June-Feb late: Mar-Aug	early: Feb-Mar late: Aug	Jan-Feb	C	50-100 ft. row	12"	30"	40-50	12-20
PUMPKINS	May	April	Apr-June	Mar	W	1-3 plants	48"	72"	55	8-24
RADISH ^{1, 2}	all year	all year	Sept-Mar	Oct-Feb	C	4 ft. row	1"	18" ⁴	32	....
RHUBARB	Dec-Jan	Dec-Jan	Jan-Feb	.....	C	2-3 plants	36"	48"	32	2-3
RUTABAGAS	July	July, Mar	July, Aug	Oct-Jan	C	10-15 ft. row	3"	24" ⁴	32	8-16
SPINACH ¹	Aug-Feb	Sept-Jan	Sept-Jan	Sept-Nov	C	10-20 ft. row	3"	18" ⁴	32	1-2
SQUASH (summer)	May	Apr-June	Apr-June	Feb-Mar	W	2-4 plants	24"	48"	40	2-3
SQUASH (winter)	May	Apr-June	Apr-June	Feb-Mar	W	2-4 plants	48"	72"	55	8-24
TOMATOES ^{1, 3}	May	Apr-Aug 15	Apr-May	Dec-Mar	W	10-20 plants	See page 31	See page 31	50	1-2
TURNIPS ¹	Jan, Aug	Aug, Apr	Aug, Feb	Oct-Feb	C	10-15 ft. row	2"	24" ⁴	32	8-12
WATERMELONS	May-June	Apr-May	Apr-May	Feb-Mar	W	6 plants	60"	72"	40	2-3

1. Crops suggested for a small garden.

2. Crops which, in a suitable climate, should be planted more than once for continuous harvest.

3. Transplants used for field planting.

4. If grown on beds, plant two rows per bed with beds about 32-40 inches apart, and tops of beds 18 inches wide.

PLANTING POINTERS

Some vegetables in this chart carry numbers.

This is your key to what those numbers mean:

LIMA BEANS

Bush and pole types.

Suggested bush varieties:

Henderson's Bush

Fordhook 242

Sixty-five to 90 days required from planting to first harvest. Pick when beans are full and green, before they turn white.

SNAP BEANS

Bush and pole types.

Suggested varieties:

Bush type(green):

Bush Blue Lake 274

Commodore

Tenderbest

Bush type (yellow):

Pencil Pod Wax

Pole type:

Kentucky Wonder

Blue Lake

Bush types produce in 50 to 60 days; pole types, about 10 days later. Pick at various stages of pod growth. Some prefer them when they are $\frac{1}{3}$ maximum size, or at various older stages up to full-sized, but immature beans. Pods are usually ready about 2 or 3 weeks after blossoms. Under good growing conditions, pickings may be made every 3 to 5 days.

BEETS

Suggested varieties:

Detroit Dark Red

Early Wonder

Spring crop may be planted in January or February in most sections of California. Low temperatures may cause bolting of the root before it is mature. Early planting matures crop before curly top develops, in sections where leafhopper is prevalent. An



Snap beans trained on strings. A few plants will be ample for the average-size family.

August planting will be ready by November or December, and the roots may be left in the ground and pulled as wanted. Thin when plants are 4 inches high.

BROCCOLI

Suggested variety:

Early and medium strains Green Sprouting

In cooler areas, may be grown most of the year; in warm interior valleys, a fall crop, and sometimes an early

Below: a well-tended field of lima beans.



spring one, are grown. The immature flower head and part of the leaves and stems are eaten. If harvested before flower buds open, a single planting may produce for 3 months in late fall and winter.

BRUSSELS SPROUTS

Suggested variety:

Long Island Improved

Does well only along the coast, not in warmer areas. Sprouts form along the main stem. They may be harvested over a period of a month or more, as they mature from the bottom of the plant upward. Pick sprouts when they are hard, and before outer leaves have a slightly yellow appearance.

CABBAGE

Suggested varieties:

Early:

Golden Acre

Early Jersey Wakefield

Medium Round Dutch

Round Red Dutch (a red type)

Savoy Chieftain

Late:

Slow Bolting Flat Dutch

Danish Ballhead

Below: Chinese cabbage. Shown are one plant and three heads of the Michili variety.



Cabbage may be grown throughout the year on the coast. Low temperatures may cause early bolting. In such areas, plant slow-bolting types or wait until the weather warms up. Cabbage does best in the interior valleys from late fall to early spring. Plants started in flats are ready for transplanting in about 8 to 10 weeks. Harvest when heads are solid. Cabbage will keep well in the field during cool weather; stores well after cutting.

CHINESE

CABBAGE

Suggested variety:

Michili

Used primarily for salad, also for greens. Matures in about 70 days, and is best planted to mature in late fall. Low temperatures, followed by long days, prevent heading. Grows rapidly and yields heavily. Harvest when heads are firm.

CANTALOUPE

AND OTHER MELONS

Suggested varieties:

PMR #45

Hales Best

Persian

Honey Dew

Casaba

Melons require high growing temperatures; do best in warm interior valleys. May be either orange- or green-fleshed. Most varieties require 90 days to produce fruit; Persian requires 120 days. Vines have separate male and female flowers, and are pollinated by bees. Male blooms do not set fruit. Harvest when fruit is at "full slip." This means when a slight crack completely circles the stem where it is attached to the fruit, so that the stem can be pulled off, leaving a smooth cavity. The slip does not de-



Cauliflower. Left: Snowball, an early variety. Right: November-December, a late type. Leaves of late types curl over curd to protect it from the sun. Leaves sometimes have to be tied.

velop in Honey Dew or Casaba. Harvest these when they soften and turn yellow. Melons may only be stored for a short period, except Casaba and Honey Dew, which store well for several weeks.

CARROTS

Suggested varieties:

Nantes

Chantenay

Imperator

Seeds start best under cool, moist conditions in the spring, but may be started in slightly warmer weather if soil is kept moist. Thin so that roots are 2 inches apart in the row. Carrots are ready for use about 85 days after seeding. Harvest when roots are large enough but still tender. May be stored in the ground during cool winter months.

CAULIFLOWER

Suggested varieties:

Early: Snowball A

Late: November-December

Grows best in cool, fairly moist climate. Plants are ready for transplanting in 8 to 10 weeks after seeding.

Snowball may be grown as both a fall and spring crop. It will produce good heads 2 months after transplanting. Late varieties take 4 to 6 months. If the leaves are not large enough to protect the curd, or head, from the sun, tie them together over the head when it is half grown. Harvest when head is of good size and still compact.

Celeriac or turnip-rooted celery is eaten cooked or raw in salads. Cut root on left shows the interior appearance of the vegetable.



CELERIAC

Variety:

Large Smooth Prague

Often called "celery root" because the enlarged root is the edible part. Follow same procedure as for celery, but do not blanch.

CELERY

Suggested variety:

Utah 52-70

Usually grown from small plants. (If grown from seed, keep soil very moist. Seed should be just barely covered with soil. Seedlings are ready for field transplanting in 8 to 10 weeks after seeding.) Crop is ready for cutting in 90 to 120 days after transplanting. Celery requires much water and much nitrogen fertilizer.

CHARD

Suggested varieties:

Large Ribbed Dark Green

Fordhook Giant

Start crop in late winter or early spring to avoid severe damage from

curly top. Plants bear heavily and produce greens most of the year. New leaves develop in center of plants as older ones are cut from outside. One plant will stand many pickings.

CHAYOTE

Perennial vine.

Growth habits similar to cucumber. Grows in warm coastal areas, for fall and early winter harvest. Plant whole fruits in spring. Place them on a slant in the soil, with stem end up. Train vines on a trellis. Harvest as soon as fruits are full grown.

CHIVES

Perennial.

Grow from seed or by division of a clump already established. Good for giving mild onion flavor to salads and other dishes.

SWEET CORN

Suggested varieties:

Golden Bantam—Early

Golden Cross Bantam

Calumet

Thrives best when planted in small blocks of 4 or more rows, instead of a single row. Pollination is better in this type planting, and the ears will be well filled. (Removing suckers from base of plants does not increase yield.) For a continuous supply, plant small blocks every 2 or 3 weeks. If you want corn all summer, plant it in a warm, not hot, area. Harvest at the milk stage, since the sugar decreases and the starch increases as the kernel ap-

Chayote is a trailing vine which needs support. The fruit (insert) has only one seed and is used like summer squash or is baked. The fruit is ready to eat at an immature stage.





Corn, just right for harvesting, is shown in the center. The ear at the top is too mature for good eating; the ear shown at the bottom is not mature enough for good eating.

proaches the dough stage. Test for this by pushing your thumbnail into a kernel. If kernel is plump, and milk pops out, the ear is ready to pick. Husks on mature ears feel firm when grasped. Corn should be used immediately after picking. It does not keep well unless stored at near freezing temperature.

CUCUMBERS

Two types—slicing (for salads) and pickling. The latter not usually grown in small gardens, since slicing types may also be used for pickling.

Suggested varieties:

Slicing:

Ashley

Marketer

Lemon

Pickling:

S.M.R. 58

Should be planted and handled in same way as cantaloupes, although cu-

cumbers are less sensitive to cool weather. Insufficient soil moisture may cause bitterness. Harvest slicing type when 8 to 10 inches long; pickling type, at about 3 inches. A small number of plants will give an ample supply.

EGGPLANT

Suggested variety:

Black Beauty

A very few plants will meet the average family's needs. Should be planted and handled like tomatoes, but is slightly more sensitive to cold. Usually grown from seed in a hot-bed, and transplanted when soil has warmed up. Harvest when fruits are 4 to 6 inches in diameter. Test by pressing with the thumb. If the flesh springs back, the fruit is green; if it does not, the fruit is mature. Harvest about half way between these stages. Cut with knife or pruning shears.

ENDIVE

Suggested varieties:

Full Heart Batavian (escarolle)

Large Green Curled

Grown for use in salads, as greens, as a garnish. Planted and handled like lettuce, but is hardier, and may be produced as a winter crop in many sections where lettuce will not grow. Yields over longer period than lettuce. Crop is produced in 90 days. When plants reach 12 inches in diameter, tie leaves together at the top, to blanch the hearts. Do not tie when wet; this may cause decay. Harvest when well blanched.

FLORENCE FENNEL

Often called Finocchia or Sweet Anise. The bulblike enlargement at the top of the stem is eaten raw, like celery, or used for flavoring. Has a licorice flavor.

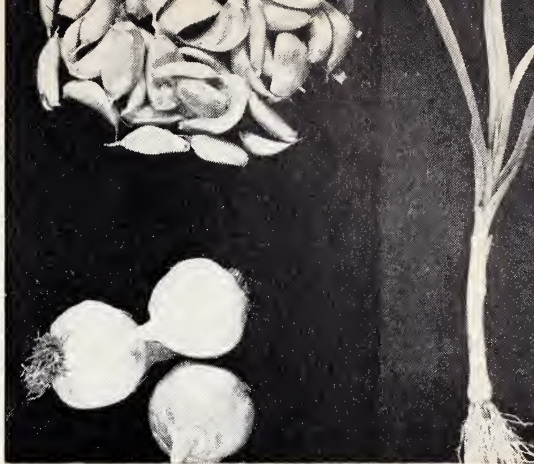


Eggplant has large leaves and the fruits are 7 to 10 inches long when fully mature.

GARLIC

Does well in most parts of California if properly handled. A few feet of row will give an amply supply. Plant in fertile soil, in late fall, winter, or early spring. Fall planting is best if winters are not severe. Give same treatment as onions. Harvest when tops begin to die. If only a few plants are grown, tops may be braided, and the rope of garlic hung in a cool, dry place, for use as needed.

Florence fennel has a sweet anise-like flavor. The swollen bases of the leaf petioles are sometimes called apples or bulbs.



Garlic is propagated from cloves obtained by breaking up the mature bulb. Shown are the characteristic flat leaves of the plant which will form a bulb late in the spring.

KOHLRABI

Suggested varieties:

Purple Vienna

White Vienna

Edible part is the fleshy stem which forms just above the ground. Flavor is similar to turnip, but somewhat milder. Harvest when fleshy part is about 2 inches in diameter.

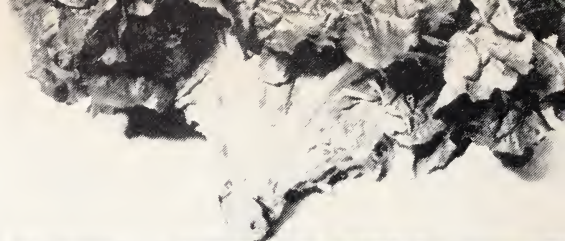
LEEK

Suggested varieties:

American Flag

Giant Musselburg

Belongs to the onion group, but has only mild onion flavor. Does not form a bulb, but is about 1 to 1½ inches in diameter, and is blanched. Usually grown as a fall crop in most areas, and may be left in the field for some time after maturity. When plants are almost full size, draw soil around them to a height of 6 to 8 inches, to blanch lower part of the plants.



LETTUCE

Suggested varieties:

Loose heading and leaf types:

Cos (Romaine)

Parris Island

Black Seeded Simpson

Prizehead

Head types:

Great Lakes 118

Bibb, or Limestone

Very sensitive to high temperatures. Winter crop is grown in Imperial Valley; spring, summer, and fall crops in the Salinas Valley and along the coast. Great Lakes is grown in the less-favorable climate than Bibb. Thin head lettuce to 12 inches between plants; leaf lettuce to 4 inches. Harvest when heads are firm.

MUSTARD

Suggested varieties:

Southern Giant Curled

Florida Broad Leaf

A cultivated variety is better than the wild, for spring greens. Grown and handled like spinach. High in calcium and iron. Those elements are believed to be more easily available to the human body in mustard than in spinach.

Left: Kohlrabi (early White Vienna variety) ready for harvesting. Edible part is similar to flesh of turnip root. Above: two types of lettuce suitable for California. Black Seeded Simpson, a leaf type (top); Great Lakes, a head type, is shown at the bottom.

OKRA

Suggested varieties:

Clemson Spineless

Dwarf Green

Sometimes called gumbo. Do not seed until soil is warm. This is a summer and fall crop. Soak seed in water for 24 hours before planting. Plant only those seeds that are swollen. Plants grow to height of 4 to 5 feet, and produce pods in about 60 days. After pods begin to form, pick them every 2 or 3 days. The plants will stop bearing if pods are allowed to ripen on the stem.

ONIONS

Suggested varieties:

Early:

Early Grano

California Early Red

Stockton Yellow Globe

Late:

Sweet Spanish

Southport White Globe



Mustard, a plant grown for greens. As only the leaves of the plants are harvested, several cuttings from one planting can be made.

These varieties are grown for bulbs. Sweet Spanish is an excellent late type. If you want green onions, Spanish is a good variety.

You can grow onions:

1. From seed. Requires a longer growing period, and rows have to be thinned. Cheapest method, most generally practiced.

2. From sets—small, mature onion bulbs planted like seed. Easy method for the inexperienced gardner, early yield, but expensive.

3. From transplants. Also easy, early, but expensive unless you raise your own plants.

Dry onions are ready to harvest when the tops fall over. Pull onions and dry them for a few days in the sun. Keep them covered with the tops to prevent sunburn. Store in a dry place. A few onion tops ("stiff necks") do not fall over. They do not keep well. Use them soon after harvest.

Harvest green onions when they are $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter.

PARSLEY

Suggested varieties:

Moss Curled (Extra Triple Curled)

Plain or Single

Grows best on fertile loam soil. Two or three plants may be grown near the kitchen. Plant seed in spring. In cool areas, the older leaves will be ready after a few months for continued picking all summer, fall, and winter.

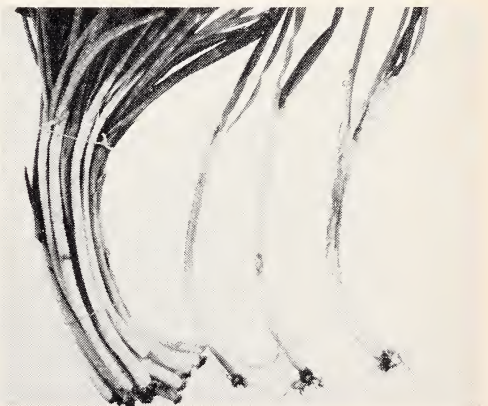
PARSNIPS

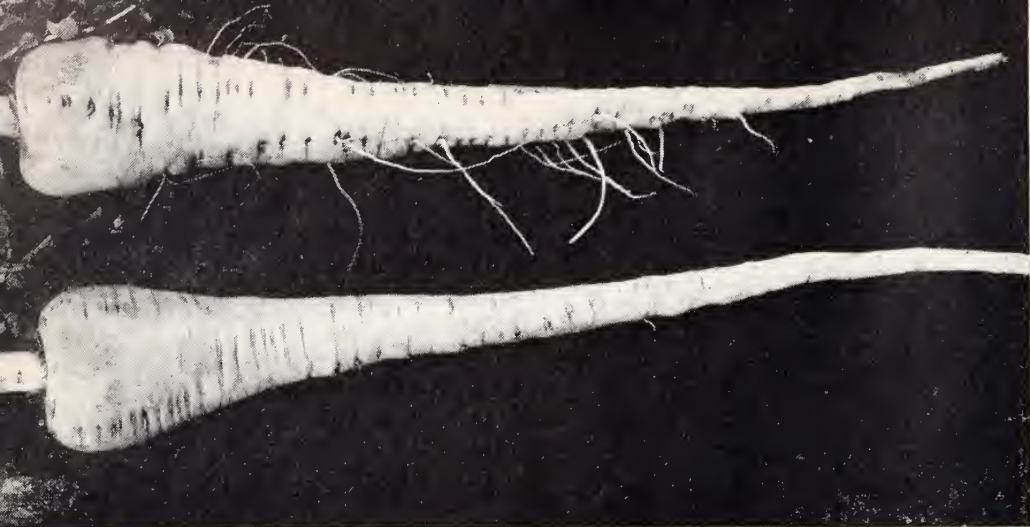
Suggested variety:

Hollow Crown

Do not plant in soil that is too heavy. Seed germinates slowly and

Left: onions, grown for bulbs, ready for winter storage. Leaves dried at top seal off onion. Right: perennial onions, grown for green onions. One plant will form a cluster for market.





Parsnip, a root crop requiring a long growing season. Its quality is improved by winter freezing, and it may be stored in the ground.

crop is slow to mature— $3\frac{1}{2}$ to 4 months. (Radish seed, which matures early, is sometimes planted with parsnip seed, to mark the rows for early cultivation.) Eating quality is improved by frost, and roots may be stored where grown. Storage in a moist atmosphere just above freezing also improves flavor.

PEAS

Vine or bush type.

Suggested varieties:

Bush:

Progress No. 9

Little Marvel

Vine:

Alderman

Melting Sugar (prepared as snap beans—both seeds and pods are eaten).

Peas do best when produced during cool weather, as warm weather makes the harvest season short. Bush peas may be grown in most areas of California; climbing types are best planted along the coast. Poles should be provided for climbing types. Height of poles will depend on the variety grown. Harvest when seeds in pods are well developed but tender enough so that they may be crushed between

the fingers without separating into halves. Peas should be cooked as soon after they are picked as possible. If it is necessary to keep them for a short time, store in the refrigerator, and do not shell until ready to use.

PEPPERS

Two types: the large-fruited, bell type (preferred by most gardeners), and small hot varieties which may be used green.

Suggested varieties:

Bell type:

Yolo Wonder (large squarish, four-lobed fruits)

Pimiento (thicker-fleshed, smaller)

Hot type:

Hungarian Yellow Wax

Cultural and climatic requirements for both types are the same as for tomatoes, but peppers need a fertile soil. You may start peppers in a hot-bed or coldframe, for transplanting, or buy small plants from the nursery and set them out in the garden. Fruits may be harvested green or ripe. Hot peppers which are to be dried should be allowed to ripen on the plant. They



Sweet potato sprouts, produced for transplanting from a root. The single sprout is ready to be set out. Do not bruise roots when digging.

turn red when ripe. They may then be cut, with one inch of stem, strung on a thread, and hung in a sunny place until dry and brittle. Use a sharp knife for cutting, as stems are tough.

Hot pepper plant in fruit.



SWEET POTATOES

Suggested varieties:

Moist type:

Puerto Rico (several strains)

Dry type:

Yellow Jersey

Grow best in light, sandy soil. Sensitive to temperatures below 50° F. Not grown along the north coast or in northern sections of the state. Usually grown from sprouts or slips which are produced by the following method: Place small sweet potatoes in a hotbed about March 1. Cover with 3 to 4 inches of sand; a soil temperature of 70°-75° F is needed for sprouting. In about 6 weeks, sprouts about 8 inches long will be ready. Pull sprouts and transplant to raised beds. You may grow several crops of sprouts from the same planting if you keep the hotbed moist. After sprouts have been set out, they need several light irrigations throughout the growing period. Potatoes may be harvested slightly immature if they are of suitable size, otherwise leave them in the ground until the roots are full grown and the vines begin to turn yellow. However, if leaves are killed by frost before they yellow, cut them off, dig the roots, and store them at once in boxes in a warm, dry cellar. Do not bruise the roots when digging, as this makes them more likely to decay. Sweet potatoes improve during storage, as a part of their starch content turns to sugar.

WHITE POTATOES

Suggested varieties:

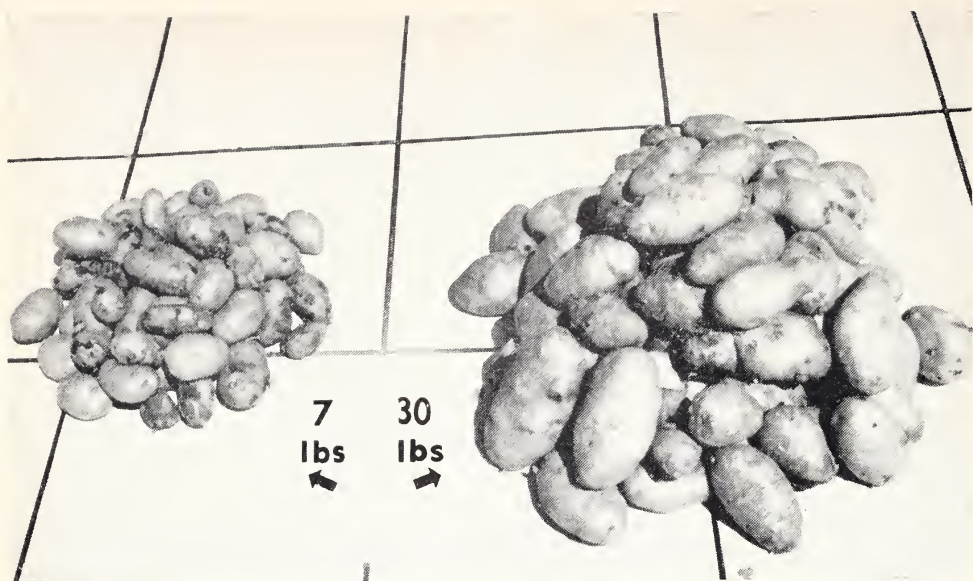
White Rose

Pontiac

Kennebec

Red La Soda

If your garden is small, you will



Potatoes: it pays to buy certified seed. Left, yield from noncertified seed. Right, yield from the same amount of certified seed. Certified seed is also free from virus disease.

probably grow only a few potatoes for the early part of the season, since this vegetable is plentiful in all markets. Potatoes are grown from sections of tubers. Buy state-certified seed potatoes if possible. These have been tested and will be free from virus disease. Cut seed potatoes into pieces weighing from 1 to 2 ounces and having one or more eyes. Store cut pieces in a cool place for one or two days before planting so that the cut surfaces will dry and callus. This decreases rotting. Drop seed pieces into furrows 3 inches deep. Fill in the furrow to ground level and leave this way for two thirds of the growing season (about 2 months). Then add 3 more inches of dirt so that the seed pieces are then buried 6 inches deep. This covers the new potatoes and prevents greening. Potatoes are shallow-rooted and need irrigation at least once a week. Apply nitrogen fertilizer at planting time to increase yields. Harvest early potatoes when they are large enough for table use. Potatoes that are to be stored for later use should be left in the ground until

the tops of the plants are partly dead, and the skin on the tubers is firm, not flaky. Store in a cool, dark cellar.

PUMPKINS

Suggested varieties:

Small Sugar

Kentucky Field (Dickinson)

Connecticut Field

Give same care and treatment as winter squash.

RADISHES

Suggested varieties:

White:

White Icicle

Red:

Cherry Belle

Comet

Red Prince

Easy to grow. Several successive crops may be planted during the season in cool areas. Ready to pull in 3 to 4 weeks after seed is planted.



Rhubarb crown ready to be divided for propagation. Rhubarb is a perennial whose leaf petioles are used for food.

RHUBARB

Perennial.

Suggested varieties:

Strawberry

Cherry

Grows best along the coast and in cool sections of the central valleys. Start plants in winter or very early spring. Rhubarb is grown from pieces of an old "crown" or rootstock, and

Spring radish varieties. From left to right: Sparkler, Scarlet Globe, White Icicle.



each piece should have at least one good strong bud. Plants should be fertilized once a year, just before the cutting season. They should grow vigorously until early summer. They will then become dormant until the winter rains come. During this first growing season, few, if any, stalks will be ready to harvest. After this period, however, the plants should produce for 5 to 8 years. They should then be divided and the new rootstocks planted.

RUTABAGAS

Suggested variety:

American Purple Top

Grown in cooler areas of the state, and are treated in the same way as turnips. Require 90 to 100 days to grow. Their quality is improved by a short storage period.

SPINACH

Suggested varieties:

Bloomsdale Long Standing

Nobel

A cool climate is best for production, as during periods of warm temperature and long days, the plants are likely to produce seedstalks before making desirable foliage growth. Spinach will produce for a longer period in cool coastal areas. Forty to 50 days are required to produce the spring crop. When ready to harvest, either the whole plant or only the large leaves may be cut. If only the leaves are cut, a second crop will grow.

SUMMER

SQUASH

Suggested varieties:

Zucchini

Early Prolific Straightneck

Early Bush Scallop

Under good growing conditions,



Winter squash varieties vary in shape and color. Shown is Table Queen with characteristic corrugated hard stem. Other varieties sometimes reach a length of 5 feet.

fruits are ready for first harvest 50 to 65 days after seeds are planted. Fruits are cut when immature—3 to 6 inches long.

WINTER SQUASH

Suggested varieties:

Pink Banana
Table Queen
Butternut

Seed is planted 4 feet apart in hills with rows 6 feet apart, and thinned to 1 plant per hill. Plant when soil has warmed up in spring. Immature squash may be used as a substitute for summer squash, but those to be stored should be left to mature on the vine. Mature fruits have hard outer shells. Cut stems of fruits to be stored with a sharp knife. Leave a short piece attached, and avoid bruising. Store in a dry, fairly cool cellar.

Summer squash blossoms. At left is a male flower which does not produce fruit but which supplies the pollen necessary for fertilization. At right a female flower with immature squash.



TOMATOES

Suggested varieties:

Earlypak 7

Pearson Improved

VFN 8

Ace 55 VF

Red Cherry

Although tomatoes are a warm-season crop, you may grow them even in cooler areas if you choose the right varieties. Earlypak 7 is good for an early crop and also as the main crop in cooler areas. Pearson is grown throughout the state, and sets well even at cooler temperatures. Any of these varieties may be used for staked plants. VFN 8 is resistant to root-knot nematodes, and also to *Verticillium* and *Fusarium* wilts.

You may start tomatoes from seed, in a hotbed, around February 1. (See pages 10 and 11 for directions on seeding and transplanting.) Do not give too much water or fertilizer before seedlings are transplanted, and keep hotbed well ventilated on warm days. Plant in 5-foot-wide beds with plants 2 feet apart in the rows.

Early varieties may also be set 1 foot apart in rows and trained to a single stem. Drive a stake into the ground beside each plant. Tie the main stem loosely to the stake at intervals. Pinch off side shoots as they appear. Staking is a good method where space is limited, and it produces clean, easy-to-pick fruits.

Tomatoes are medium-rooted, and need several irrigations. In cooler areas, with an average annual rainfall of 15 inches, average yields may be produced without irrigation.

Most plants do not set fruit from all blossoms. This may result from extremes of temperature, or an already heavy load of fruit on the plant. Harvest when fruits are red ripe. Toward the end of the season, there will be

some whitish-green full-sized tomatoes still on the vines. These may be picked and stored at 70° F to ripen.

TURNIPS

Suggested variety:

Purple Top White Globe

Crop may be produced in 60 days, and must be kept growing to prevent strong flavor. Requires care similar to that for beets.

WATERMELONS

Suggested varieties:

Klondike R7 (solid dark green)

Striped Klondike or Blue Ribbon
(dark and light green stripes)

Watermelons should be limited to fairly large gardens. General methods of planting and handling are same as for cantaloupes. First fruits may be harvested about 89 days after seeds are planted. May be grown with fair success without irrigation in sections where winter rainfall is over 12 inches, and the soil stores 9 inches of water. Irrigation may increase the yield. If dry-farming is practiced, plant seed as early as possible in spring, and thin plants to one per hill. To test for ripeness, rap the side of the fruit with the knuckles. A light, or metallic sound means that the fruit is still green; a dull sound means it is ripe. This test is most reliable in the early morning—during the heat of the day, or after melons have been picked for some time, they all sound ripe. Fruits have a "ground spot" where they rest on the ground; this turns slightly yellow as the fruit matures. Watermelons tend to become rough as they mature. The tendrils near the fruit darken and dry up as the fruit ripens. These tendrils are on the leaf closest to the melon. Do not pull melons off the vine; cut them with a sharp knife.



A well-planned home garden.

The authors wish to thank the Ferry-Morse Seed Company for supplying many of the photographs used in this circular.

To simplify the information, it is sometimes necessary to use trade names of products or equipment. No endorsement of named products is intended nor is criticism implied of similar products not mentioned.

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